regulators of cholesterol metabolism, have been shown to exhibit profound effects on the inhibition of proinflammatory cytokines and macrophage activation, rosiglitazone, a PPAR-gamma agonist, was adopted for the potential control of HPS using a rabbit model of Herpesvirus papio (HVP, an EBV homologue)-associated HPS. In vitro, rosiglitazone was shown to inhibit macrophage activation and secretion of tumor necrosis factor-alpha through inhibition of NFkB signaling in U937 cell line. Different doses of rosiglitazone were fed to rabbits after intravenous injection of 5×107 copies of HVP virus at different time courses (7 days and 20 days, respectively) of infection. As compared to the control group which succumbed consistently at around one month, the 4 mg rosiglitazone-treated group showed significant improvement of survival when fed at early stage (7 days) of infection ($p < 0.01$), while a higher dosage (8 mg) is needed to achieve therapeutic effect at advanced stage (20 days) of infection ($p < 0.05$). The viral load, TNF-alpha cytokine levels, and laboratory parameters also showed significant improvement in the rosiglitazone-treated group. Therefore, rosiglitazone, in addition to its therapeutic effect for metabolic syndrome, appears to represent a potential regimen for the control of HPS associated with virus infections.

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21.007

Analysis of the Infectious Entry Pathway of Dengue Viruses into Host Cells

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Background: Dengue virus (DENV), a member of the Flaviviridae family is the leading cause of diseases ranging from febrile Dengue Fever to life-threatening Dengue Hemorrhagic Fever/Dengue Shock Syndrome. Each year, millions are infected with the virus; however, the race to find a suitable therapy or prophylaxis for DENV is complicated by the existence of 4 serotypes of DENV and the advent of antibody-mediated enhancement (ADE). In the light of this re-emerging disease, our group has taken the proactive approach to study the entry pathway of Dengue virus serotype 2 (DENV2) into HepG2 hepatocytes. Armed with this new-found knowledge, we hope to be able to contribute further to the understanding and the development of effective anti-dengue strategies.

Methods: Our experiment was divided into three main areas; (1) using drug inhibitory assays against candidate host factors mediating virus endocytosis, (2) using molecular inhibitors and siRNA molecules against these host factors as a molecular approach to supplement our results and (3) employing the use of indirect immunofluorescence microscopy for bio-imaging studies tracking DENV2 entry into HepG2 within the first 30 minutes of infection.

Results: Our virus growth curve shows productive DENV2 infection of HepG2 cells from the point of infection to 10 days post-infection. We embarked on using small molecule drugs against host factors identified as having a crucial role work (actin and microtubule) as well as lipid rafts. All drug inhibition assays carried out show a non-cytotoxic dose-dependent inhibition of DENV2 entry into cells. Likewise, we used molecular inhibitors and siRNA molecules against these cellular factors showed similar results. Finally, our bio-imaging studies further reveal a stepwise entry of DENV2 into HepG2 cells starting with clathrin-mediated endocytosis followed by co-localization with early and then late endosomes.

Conclusion: Our study gives us a first glimpse of the intricate interaction of host factors that mediate DENV2 entry into HepG2 cells and provides us with an avenue to develop therapeutic approached to target this crucial initial interaction to combat DENV infection in general.

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21.008

Infection Control Assessment in Private Dental Clinics of Bandar Abbas, Iran

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Background: Infection control programs in dental clinics are essential to prevent of infectious transmission among personnel and patients. The program usually starts by evaluation of risk factors and completed by designing a suitable strategy for removal of them. The present study assessed the infection control situation of private dental offices in Bandar Abbas, southern Iran, during year 2006.

Materials & Methods: sixty dental were investigated using a cross- sectional study in a 6 months period. A standard questionnaire was used to collect data (correspondence rate was 82%). The questionnaire contained 46 questions about demographic information, knowledge and practice of dentists about infection control and hygienic condition of clinics. Data was analyzed using T and Pearson tests.

Results: vaccination rate against hepatitis B was 43.5 percent, among selected dentists, 75% of them were not confident about antibody production in their body. Eighty and 15% of questioned dentists used personal protection equipments and mouth washing solution respectively. Correct answer to questions on instruments sterilization, properly hand washing procedures and subcutaneous infection control were 74, 56.7 and 34 percent respectively. Special containers were used for infectious disposal in 82 percent, of which, 60 percent were labeled. Seventy four percent of dentists were confident about accurate sterilization of instruments, but 50% of them were not confident that instruments remained sterilized till operation. Average score of knowledge, practice, and hygienic clinics situation in female and male dentist were (10.1 $\pm$ is & # 1.73, 11.1 $\pm$ is & # 1.79), (14.4 $\pm$ is $\pm$ 1.40, 13.6 $\pm$ is $\pm$ 1.73) and (16.6 $\pm$ is $\pm$ 1.13, 16 $\pm$ is $\pm$ 1.26) respectively.

Conclusion: In our quality assessments, the knowledge and practice level of selected dentists were intermediate and environmental health situation of clinics was find high scored. According to relationship between knowledge

and practice, infection control rate will be promoted using related educational programs.

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21.009

The Linear Behaviour of Pathogen Strain of *Bacillus anthracis* A0843 in Anthrax Subcutaneous Challenge on Rabbit Model

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Background: The pathogen strain of *Bacillus anthracis* A0843, isolated during an anthrax outbreak occurred in Italy, belongs to the Cluster A1a genotype 3. The authors show its activity underlining that the regular behaviour could make it useful as a reference strain for subcutaneous challenge in rabbit model for anthrax vaccines efficacy test. Italy doesn't use Ames strain because the restrictive measures, imposed after the bioterroristic events occurred in October 2001 in USA, reduced the movements of pathogen agents between reference laboratories in the world. It is necessary to adopt new rules that favour the security and the regularity of the research.

Method: This study was done, during 3 years, on 50 New Zeeland rabbits, males and females, with a weigh between 1.200 and 1500 grams. The site of injection was back in the space between the two scapulae. It was used 20 LD50 (about 40.000 spores) of the pathogen strain according to the European Pharmacopoeia.

Results: It was observed that anthrax begins to kills after 48 hours from the infection. At 72 hours the percentage of survival is 56,66%; at 96 hours is 30%. It was observed that two animals that survived after 120 hours from infection didn't die.

Conclusion: The LD50 of B. anthracis strain A0843 in rabbit is 2.000 spores, less virulent then Ames strain which is characterized of a LD50 of about 1.200 spores. The standard amount of 20 DL50 (about 40.000 spores) of B. anthracis strain A0843 injected in subcutaneous area in rabbits shows a linear behaviour. The higher mortality is observed between 72 and 96 hours. All the animals died within 120 hours from the infection. None of the infected animals survived over this time and we consider it the survival line of anthrax subcutaneous challenge in rabbit.

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21.010

Aflatoxin B1 Production in Tissues in Experimental Invasive Aspergillosis Due to *Aspergillus flavus*

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Background: Aflatoxins are well-known secondary metabolites of the mould *Aspergillus flavus*, but it is not clear whether aflatoxins are produced in tissues in the course of invasive aspergillosis due to aflatoxinogenic *Aspergillus flavus* strains. We sought to determine whether aflatoxin B1 is produced in tissues in experimental invasive aspergillosis due to aflatoxinogenic *Aspergillus flavus*.

Methods: Corticosteroid-treated (immunosuppressed) Wistar rats received intravenous challenge with conidia from a known aflatoxin B1-producing strain of *Aspergillus flavus* (test rats) or with conidia from a aflatoxin non-producing strain of *Aspergillus flavus* (control rats). Animals were sacrificed after 10 days and key organs dissected out. Thin-layer chromatography was used to detect aflatoxin B1 in tissue homogenates; in addition, total protein concentration and protein profiles were determined. Histopathological studies were also done.

Results: Aflatoxin B1 was detected in concentrations of 120 ppb and 70 ppb, respectively, in homogenates of liver and kidney of test rats, but was not detected in tissue homogenates from control rats. The total protein concentration as well as the protein profiles of homogenates of the liver, kidneys, eyes and spleen of test rats tended to show much greater alterations than those in control rats. Invasion of tissue by fungal hyphae tended to be more intense in test than in control rats, while the histoarchitecture of liver, kidney and spleen tissues underwent greater disruption in test than in control rats.

Conclusions: Aflatoxin B1 is produced in tissues in experimental invasive aspergillosis due to aflatoxinogenic *Aspergillus flavus* and may account for the pronounced alterations in protein profiles and histoarchitecture compared to that occurring in invasive aspergillosis due to aflatoxin non-producing *Aspergillus flavus*.

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21.011

In Vivo Pharmacodynamic Characterization of T-705 in an Experimental Influenza Infection Model in Mice

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Background: T-705, an oral anti-influenza virus agent discovered by Toyama Chemical. Co., Ltd., and is currently under clinical development. T-705 exhibits in vitro and in vivo antiviral effect against influenza A and B. Further-